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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,753	05/26/2004	Douglas Zhu	81094665 / FMC 1698 PUS	3752
28395	7590	08/05/2005	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			FASTOVSKY, LEONID M	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/709,753	<b>Applicant(s)</b> ZHU ET AL.	
	<b>Examiner</b> Leonid M. Fastovsky	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10 and 13-20 is/are rejected.
- 7) ☒ Claim(s) 9, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/24/04 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 10, 13 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matava et al (5,280,158) in view of Vanderslice, Jr. et al.

Matava discloses a method of heating vehicle components including heating of a battery before starting an engine and the vehicle controller-microprocessor 7 (Col. 1, lines 5-35) thus inherently determining a shut-down condition. At first, before activating the controller 7 which is practically in a suspend mode condition, the system functions are tested through keys 12 through 20 (col. 5, lines 21-56), the program begins the process of monitoring an ambient temperature, and heating 31 is initiated when the ambient temperature is less than temperature threshold 22 (col. 6, lines 20-25, corresponding to claims 5 and 17). A stop heating command is transmitted to the vehicle select logic 8 by the microprocessor 7. However, Matava does not disclose that energy flows from the battery to the heater to heat the battery.

Vanderslice discloses a method and an apparatus in which the internal resistance of the battery is used as the heating element for maintaining battery temperature (col. 1, lines 54-62). The heating system comprising a DC charger 18 and when it is disabled, which corresponds to the shut-down condition, the load 12 draws current through the battery

10, heating internal resistance R and the battery (col. 3, lines 36-39) and a temperature controller 16 with a comparator 38 for sensing the battery temperature (corresponding to claims 6 and 18). It would have been obvious to one having ordinary skill in the art to modify Matava's invention to include a battery heating system as taught by Vanderslice in order to heat the battery in the vehicle because the need for a separate battery heater is reduced or eliminated entirely. More than that, the battery heat is generated inside the battery where it needs to be, rather than in materials outside the battery (col. 1, lines 54-62).

3. Claims 7-8,14-16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matava in view of Vanderslice and further in view of Gollomp et al. Matava in view of Vanderslice teaches substantially the claimed invention, but does not teach a sleep mode and a battery state of charge (SOC) .

Gollomp teaches a system and a method for monitoring a vehicle battery comprising an ambient temperature sensor 130, a sleep mode (Fig. 3), and a battery state of charge (SOC) (col. 14, lines 20-67, col. 15, lines 1-67, col. 16, lines 1-36). It would have been obvious to one having ordinary skill in the art to modify the invention of Matava in view of Vanderslice to include a sleep mode as taught by Gollomp in order to provide real time conditions regarding potential loss of capability and the need for corrective action (col. 14, lines 21-67) and determine the battery SOC by computer (col. 9, lines 30-67, col. 10-, lines 1-5).

***Allowable Subject Matter***

4. Claims 9, 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1-8, 10 and 13-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***


6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

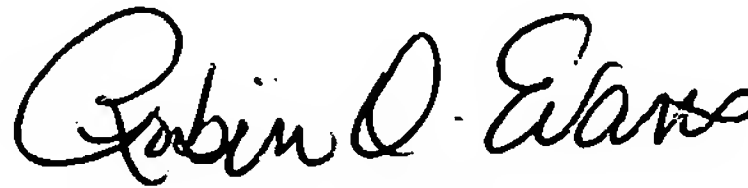
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Leonid M Fastovsky  
Examiner  
Art Unit 3742

Imf

8/2/05

  
ROBIN O. EVANS  
PRIMARY EXAMINER  
8/2/05